

Claims

1. A method for installing one or more control lines to the outside of a pipe string, comprising:

attaching a control line to a first point at the outside of a length of pipe,

5 selecting a second attachment point on the length of pipe where the control line is to be attached to the outside of the length of pipe,

lowering the length of pipe and attached control line through an opening in the floor of a rig until the first and second attachment points are below the floor,

10 raising the length of pipe and attached control line from the floor opening until the second attachment point is above the floor,

attaching the control line to the outside of the length of pipe at the second attachment point,

lowering the length of pipe and attached control line until the second attachment point is below the floor,

15 adding pipe to the length of pipe above the floor,

selecting a third attachment point where the control line is to be attached to the outside of the length of pipe,

lowering the length of pipe and attached control line through the floor opening until the third attachment point is below the floor,

20 raising the length of pipe and attached control line from the floor opening until the third attachment point is above the floor, and

attaching the control line to the outside of the length of pipe at the third attachment point.

25 2. A system for securing a control line to the outside of a length of pipe, comprising:

a pipe elevator for selectively raising and lowering the length of pipe through a rig floor opening,

30 a pipe support assembly carried on the rig floor for selectively supporting the length of pipe in the floor opening,

an access opening extending laterally between the pipe support assembly and the rig floor for receiving a control line,

a control line extending from above the floor, through the access opening and through the rig floor opening to the length of pipe below the rig floor,

5 a linking structure for selectively raising and lowering the pipe support assembly, and

a securing structure for securing the control line to the length of pipe at a point above the floor and below the pipe support assembly when the linking structure has raised the pipe support assembly above the floor.

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3. A system as defined in claim 2 wherein said linking structure comprises an elevator.

4. A system defined in claim 2 wherein said linking structure comprises a
15 cylinder/piston assembly.

5. A system as defined in claim 4 wherein said cylinder/piston assembly is carried by an elevator.

20 6. A system as defined in claim 4 wherein said cylinder/piston assembly is mounted on said floor.

7. An apparatus for attaching a control line to the outside of a length of pipe, comprising:

25 a pipe support assembly mountable on the floor of a rig over a floor opening for supporting a vertically extending length of pipe in the floor opening,

an access opening extending laterally alongside the pipe support assembly from a first point above the floor to the floor opening,

a control line guide connected with the pipe support assembly for guiding a control line from said first point above the floor through said access opening to a second point below the floor along a path that extends between the two points, and

5 a linking structure for raising the pipe support assembly and the control line guide from its mounting on the rig floor.

8. An apparatus as defined in claim 7 wherein said linking structure comprises an elevator.

10 9. An apparatus as defined in claim 7 wherein said linking structure comprises a cylinder/piston assembly.

10. An apparatus as defined in claim 9 wherein said cylinder/piston assembly is carried by an elevator.

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11. An apparatus as defined in claim 9 wherein said cylinder/piston assembly is mounted on said floor.